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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/690,694

10/16/2000

YUJI TAKAMIZAWA

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03/24/2004

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EXAMINER

STEPHANY, TIMOTHY J

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 03/24/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,694

Applicant(s)

TAKAMIZAWA ET AL.

Examiner

Timothy J. Stephany

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 16, 2000 and February 26, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This action is responsive to Amendment A, filed February 26, 2004.

C. Specification: Applicant's amendments with respect to specification informalities have been fully considered and are acceptable. The objections to the specification have been withdrawn.

Response to Arguments

Applicant's arguments in Amendment A, filed February 26, 2004, with respect to:

A. Priority: the granting of foreign priority have been fully considered and are persuasive. The conditions for foreign priority under 35 U.S.C. 119(a)-(d) have therefore been met fully.

B. Title: the title change been fully considered and is persuasive. The objection to the title has been withdrawn.

D. Claim Rejections: the enabling requirements have been fully considered and are persuasive. The 35 U.S.C. 112 rejections to claims 4 and 12 have been withdrawn.

D. Claim Rejections: Applicant's arguments with respect to claims 1-23, being rejected under 35 U.S.C. 102(b) or U.S.C. 103(a) in view of Akiyama ('653) and further in view of Fukano ('117), Manglapus ('151) and Teradaira ('081), have been fully considered but they are not persuasive. Although the argument against Akiyama used in the 102(b) rejection is valid, it is so provided there is not intended to be any need for

Art Unit: 2622

detection and communication to occur through an external apparatus, as summarized in points (1) and (2) regarding claim 1, as well as the arguments regarding claims 2-7, 8-18 and 21-23. The arguments presented essentially state that the printer must respond to the error detection based upon a data-handling mode previously set within the printer. However, it is also stated that the other references do not teach these elements either, which is not the case, given the newly stated ground of rejection applied below by the addition of Fukano to Akiyama.

Fukano discloses a parameter m, the setting of which is pre-selected (col. 6, lines 12-14) and indicates the process to be performed following the off-line state (col. 6, lines 20-22), and that this occurs without communicating with an external apparatus once it has been pre-selected (col. 6, lines 40-44). In the case when m=2 the buffers (receive and print buffers) are cleared (col. 6, lines 30-31).

Regarding claims 19 and 20, the argument for rejection has been set forward more precisely in response to the proposed amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-18 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama ('653) in view of Fukano ('117).

Regarding **claims 1 and 21**, Akiyama discloses a printer connected to a host computer, and teaches a receive buffer (col. 2, lines 55-56) a data interpreter (col. 9, lines 51-52), a control means/controller (col. 2, lines 56-61), a state detection means/state detector (col. 3, lines 15-17), and a clearing means/clearing unit (col. 10, lines 8-10) that occurs after a non-print state (col. 9, lines 57-60). Where the off-line state is one that represents the first state where data can still be interpreted but is not printed (Abstract, lines 2-3).

Akiyama fails to teach that the "clearing means is responsive to said state detection means for clearing said receive buffer in response to said printer said first state", given that this occurs according to pre-selected settings that allow the printer to do this internal to itself without having to communicate with an external apparatus.

Fukano adds that there is a parameter m, the setting of which is pre-selected (col. 6, lines 12-14) and indicates the process to be performed following the off-line state (col. 6, lines 20-22), and that this occurs without communicating with an external apparatus once it has been pre-selected (col. 6, lines 40-44). In the case when m=2 the buffers (including the receive buffer **104** in Figure 1) are cleared (col. 6, lines 30-31).

Regarding **claims 2, 3 and 22**, Fukano also teaches a setting means/setting unit when in a first state (col. 6, lines 12-14), being parameter m, being used in the process and thus read (reading means/reading unit) (col. 6, lines 20-22) and that the clearing means/clearing unit clears the buffer when this allows (col. 6, lines 30-31). Also Fukano

teaches that this is the result of a control command from the host computer (col. 6, lines 12-14).

Regarding **claims 4-6 and 23**, Akiyama also teaches that there is a means after the printing apparatus is off-line (col. 4, lines 21-23) by which data from the host is discarded (data discarding means/data discarding unit) (col. 4, lines 37-39), as required in claims 4 and 23. In addition, it is specified that this occurs only by a designation of a handling mode (that may choose from at least two different states) (col. 4, lines 37-39), as required in claim 5. Akiyama also makes reference to a print buffer, that is distinguished from a receive buffer and that this is cleared by a clearing means (col. 10, lines 7-9), as required in claim 6.

Regarding **claim 8**, Akiyama discloses a printing apparatus with a controller (in this case being a host computer). It includes the ability to detect whether the printer is on-line or off-line (col. 10, lines 59-61) corresponding to a first and second state, respectively. Where the off-line state is one that represents the first state where data can still be interpreted (Abstract, lines 2-3).

Akiyama fails to teach that the "clearing a receive buffer for temporarily storing received data in response to said printer entering said first state", given that this occurs according to pre-selected settings that allow the printer to do this internal to itself without having to communicate with an external apparatus.

Fukano adds that there is a parameter m , that indicates the process to be performed following the off-line state (col. 6, lines 20-22). In the case when $m=2$ the buffers (including the receive buffer **104** in Figure 1) are cleared (col. 6, lines 30-31).

Regarding **claim 9**, Akiyama also discloses that the second condition follows immediately after the first (col. 9, lines 57-60 and col. 10, lines 5-10).

Regarding **claim 10**, Akiyama also discloses that in the off-line mode (col. 4, lines 20-22), the host computer also determines the data-handling mode and that this mode can be set to clear the buffer (col. 4, lines 37-39).

Akiyama fails to teach that "reading said data handling mode in response to detection of said first state in step (a);", given that this occurs according to pre-selected settings that allow the printer to do this internal to itself without having to communicate with an external apparatus.

Fukano adds that there is a parameter m , that indicates the process to be performed following the off-line state (col. 7, lines 60-63). In the case when $m=2$ the receive buffer is cleared (col. 8, lines 15-16), that is, only when the data handling mode (m) allows (is equal to 2).

Regarding **claim 11**, Akiyama also discloses that according to the control commands from the host computer (col. 13, lines 9-11), clearing can be performed (col. 13, lines 32-34).

Regarding **claim 12**, Akiyama also discloses that all previously received data is deleted, after the off-line state, and before resume printing (on-line state) (col. 10, lines 5-6).

Regarding **claim 13**, Akiyama also discloses that clearing occurs only through a data-handling command from a host computer (col. 13, lines 9-11).

Regarding **claim 14**, Akiyama also discloses that after clearing the receive buffer, receive data is then temporarily held in the receive buffer (col. 14, lines 3-8) until the interrupt process is ended (col. 14, lines 23-25), which returns to the on-line mode (second state).

Regarding **claims 15 and 17**, Akiyama discloses the printer in the claim 8 rejection above, but fails to disclose as clearly as Fukano, that the buffer is cleared when the second state is detected, only after the first state is detected (claim 15), and that a print buffer is also cleared (claim 17).

Fukano adds that the buffer is cleared when there is an on-line (resume) mode, following an off-line mode (col. 3, lines 57-59), also that this applies to a print buffer as well as a receive buffer (col. 8, lines 15-16).

Regarding **claim 16**, Akiyama adds that both a receive buffer and a print buffer are cleared in the first state (col. 15, lines 48-49).

Regarding **claim 18**, Akiyama discloses the printer in the claim 8 rejection above, but fails to disclose clearly that the first and second states are off-line and on-line modes.

Fukano adds that the first state is off-line and the second state is "resume operation" or on-line (col. 2, lines 24-28).

Akiyama and Fukano constitute analogous art due to their similarity of structure and function in the same field of endeavor, being printers that clear buffers by reference

to their status. Thus, it would have been obvious to those of ordinary skill in the art at or before the time of the invention by the applicant for a printer to be connected to a host computer whereby the printer is preset to clear the buffers after determination of the state as being in the first state (off-line, interpreter does not interpret data, printer does not print data), that data sent from the host computer is discarded while the printer is in this first state when the data handling mode is set to allow this, and saving in the cleared receive buffer data from a host until detection of second state, based on the combined teachings of Akiyama and Fukano.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable Akiyama ('653) in view of Fukano ('117), in further view of Teradaira ('081). Akiyama and Fukano disclose the printer in the claim 1 rejection above, but fail to disclose that the first state is an off-line mode where data interpretation does not occur and that the second state is an on-line mode where data interpretation does occur.

Teradaira adds that in the off-line state that data interpretation does not occur (Col. 7, Lines 8-10) and by implication that in the on-line mode data interpretation does occur.

Akiyama and Fukano constitute analogous art due to their similarity of structure and function in the same field of endeavor, being printers that clear buffers by reference to their status. The Teradaira reference is a means of controlling a printing apparatus. Thus, it would have been obvious to those of ordinary skill in the art at or before the time of the invention by the applicant to have the first state be an off-line mode where

data interpretation does not occur and the second state be an on-line mode where data interpretation does occur, based on the combined teachings of Akiyama and Fukano with Teradaira.

Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manglapus ('151) in view of Akiyama, and further in view of Fukano.

The precise wording to the amended claim states: "a host computer that sends data including control commands to a printer, comprising: a data transmitter that sends print data accompanied by a printing completed command requesting said printer to notify said host computer when printing is completed;"

Manglapus discloses a host device that sends print jobs with data that includes commands that are transmitted in the print jobs (col. 5, lines 37-39) that can be used for the transmission of status information to the originating user workstation (col. 5, lines 28-32. Also specified is that along with these control signals could be a request for when the print job is completed (col. 6, lines 48-50).

The precise wording to the amended claim states: "a notification detector that awaits and detects a printing completed notification from said printer in response to said printing completed command;"

Manglapus has shown the purpose embodied in the transmission of status information related to the job request to the originating user workstation (col. 5, lines 28-32) that would include the aforementioned job completion signal.

The precise wording to the amended claim states: "a state detector that awaits and detects an on-line state or off-line state notification from said printer;"

Manglapus does not teach such a state detector. Akiyama adds that the printing apparatus's on-line/off-line status can be determined by the host computer based on the printing-apparatus status information (col. 10, lines 59-62) and that the status is detected and reported to the host computer by the real-time command interpreting means (col. 10, lines 17-19), which implies that the computer has a means to monitor and detect the status information.

The precise wording to the amended claim states: "and a print data resending unit that resends print data to said printer after receiving an on-line notification from said printer if said state detector detected an off-line notification from said printer while awaiting said printing completed notification."

The statements above reflect a host computer that sends a print job, and that this print job includes status including its capacity to monitor on-line and off-line status while the print job is being printed (that is, after the print job is started but before the host computer is notified that the print job has completed), based on the combined teachings of Manglapus and Akiyama, but fail to teach that there is a resending unit for resending data following an off-line signal detected by the host while waiting for the print completion signal.

Fukano adds that there is a re-sending section (**102c** in Figure 1) which resends print data or commands when the receiver receives notification from the printing apparatus that the resume operation could not be successfully executed (col. 9, lines 3-

7). The results of the resume operation are transmitted to the host (col. 8, line 67 thru col. 9 line 1), the resume operation stated as following an off-line state (col. 9, lines 1-2) and thus comprising an on-line state. The results of the resume operation both notify the host that the printer is back on-line (on-line notification) *and* that the print data needs to be re-sent. (This is a possible condition regardless of the fact that the printer might resume without sending any notification to the host, in the case where the resume operation is successfully executed.) The presence of an off-line state, before the resume operation, being sent to the host is not explicitly stated in Fukano, however, Akiyama states that the off-line status *could* be sent to the host, and thus comprise a step in the sequence of the resume operation. In other words, the off-line state status is available to the host, if the host *chooses* to detect it, and that the host is *capable* of detecting it. Thus its insertion into the claim constitutes an inventive step that would have been obvious to anyone skilled in the art at or before the time of its use by the applicant.

Akiyama and Fukano constitute analogous art due to their similarity of structure and function in the same field of endeavor, being printers that clear buffers by reference to their status. The Manglapus reference is a means of controlling a printing apparatus, with at least one workstation connected to a printer. Thus, it would have been obvious to those of ordinary skill in the art at or before the time of the invention by the applicant to detect an on-line state and off-line state, and re-send print data after an on-line state, based on the combined teachings of Manglapus and Akiyama with Fukano.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama in view of Fukano, and further in view of Manglapus. Akiyama and Fukano disclose the apparatus, and by implication the method, in the claim 8 rejection above, but fail to teach that the host will send a print-complete request along with the print data and then await this notification, nor does it include that the print data will be re-sent after on-line notification after an off-line notification but before receiving the print-complete notification.

The precise wording to the amended claim states: "sending print data to the printer in conjunction with a printing completed command requesting notification when printing of said print data is completed;"

Manglapus discloses a host device that sends print jobs with data that includes commands that are transmitted in the print jobs (col. 5, lines 37-39) that can be used for the transmission of status information to the originating user workstation (col. 5, lines 28-32. Also specified is that along with these control signals could be a request for when the print job is completed (col. 6, lines 48-50).

The precise wording to the amended claim states: "awaiting a print completed notification from the printer in response to said printing completed command;"

Manglapus has shown the purpose embodied in the transmission of status information related to the job request to the originating user workstation (col. 5, lines 28-32) that would include the aforementioned job completion signal.

The precise wording to the amended claim states: "resending said print data to the printer after receiving an on-line notification from the printer if an off-line notification

had been received from the printer while the printing completed notification was awaited.”

Fukano adds that there is a re-sending section (**102c** in Figure 1) which resends print data or commands when the receiver receives notification from the printing apparatus that the resume operation could not be successfully executed (col. 9, lines 3-7). The results of the resume operation are transmitted to the host (col. 8, line 67 thru col. 9 line 1), the resume operation stated as following an off-line state (col. 9, lines 1-2) and thus comprising an on-line state. The results of the resume operation both notify the host that the printer is back on-line (on-line notification) *and* that the print data needs to be re-sent. (This is a possible condition regardless of the fact that the printer might resume without sending any notification to the host, in the case where the resume operation is successfully executed.) The presence of an off-line state, before the resume operation, being sent to the host is not explicitly stated in Fukano, however, Akiyama states that the off-line status *could* be sent to the host, and thus comprise a step in the sequence of the resume operation. In other words, the off-line state status is available to the host, if the host *chooses* to detect it, and that the host is *capable* of detecting it. Thus its insertion into the claim constitutes an inventive step that would have been obvious to anyone skilled in the art at or before the time of its use by the applicant.

Akiyama and Fukano constitute analogous art due to their similarity of structure and function in the same field of endeavor, being printers that clear buffers by reference to their status. The Manglapus reference is a means of controlling a printing apparatus,

with at least one workstation connected to a printer. Thus, it would have been obvious to those of ordinary skill in the art at or before the time of the invention by the applicant to send print data with a print-complete request, await this signal, and re-send print data after an on-line after an off-line state but before the print-complete signal is received, based on the combined teachings of Akiyama and Fukano with Manglapus.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Stephany whose telephone number is 703-305-8951. The examiner can normally be reached on 8:30 am - 4:30 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 703-305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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